EPA Comments on the New York
Draft Phase I Watershed Implementation Plan

This document provides the New York State Department of Environmental Conservation (DEC) with the results of the U.S. Environmental Protection Agency's (EPA) evaluation of New York's draft Phase I Watershed Implementation Plan (WIP). The document expands upon the conference call between DEC and EPA staff on September 22, 2010 and the letter and WIP Evaluation Fact Sheet that Regional Administrator Shawn Garvin sent to Commissioner Grannis on September 24. This enclosure describes EPA's key evaluation comments in more detail and provides specific ways in which New York can improve the Phase I WIP. EPA anticipates that this enclosure, coupled with subsequent meetings and calls among EPA and DEC staff, will provide sufficient detail for New York to improve its final WIP due to EPA on November 29, 2010, and the Phase II WIP in 2011. EPA looks forward to meeting with DEC as soon as possible to further this dialogue and to reviewing revised WIP scenario runs starting as early as this week.

Section I. Overview of the WIP

Thank you for the extensive time and effort DEC has invested in order to submit New York's WIP by September 1, 2010. EPA looks forward to working with New York to enhance the Phase I WIP, and thus strengthening the implementation basis and reasonable assurance for the Bay TMDL

When reviewing each of the seven Bay jurisdictions' draft WIP document and input deck submissions, EPA evaluated whether the allocations assigned by the jurisdiction met the July 1 and August 13 nutrient and sediment allocations; whether the jurisdiction provided assurance that the strategies outlined in the WIP will achieve and maintain the wasteload and load allocations; and whether there is sufficient information for permit writers to develop permits that meet the wasteload allocation in the TMDL. These are three critical areas that each jurisdiction's WIPs must address.

EPA understands New York's intent to base WIP implementation levels on realistic, high-end estimates that assume current funding (including Farm Bill) and authorities through 2025. However, the strategies outlined in New York's draft WIP do not provide reasonable assurance that nutrient and sediment targets will be met by the 2017 and 2025 milestones, nor did New York submit an input deck that met required nitrogen and phosphorus allocations for 2025. Furthermore, the WIP does not include and commit to any proposals to increase current levels of funding or regulatory requirements for any program, and does not consistently provide sufficient detail describing how enhancements to current programs will be implemented.

New York focuses the discussion on actions that EPA could take such as 1) assuming greater reductions will result from implementation of the proposed National Air Ambient Quality Standards for ozone, 2) more aggressively pursuing air emissions reductions from concentrated agricultural facilities and vehicle exhaust in close proximity to the Bay; and 3) addressing issues

New York has raised regarding the model such as areal thresholds for the amount of nitrogen that forests are able to process and providing more credit to New York for its agricultural practices that do not align with BMPs used in the model. While New York agrees to work with EPA to address these issues, New York does not indicate whether they will provide alternative BMPs for credit in the model following EPA-approved protocol as described in the April 2, 2010 *Guide for EPA's Evaluation of Phase I Watershed Implementation Plans.* New York also does not suggest an alternative process for incorporating many agricultural and stormwater practices such as roadside ditch development and maintenance for bioretention into the model.

Finally, the WIP indicates that New York will not meet its July 1 nutrient allocations in part because it disagrees with the fairness and equity of these allocations. However, EPA expects all jurisdictions to meet the nutrient allocations announced on July 1 based largely on a method agreed to by all members of the Chesapeake Bay Program Principals' Staff Committee, with the exception of New York, in October 2010.

Given that New York's WIP does not meet these allocations, EPA applied high level backstop allocations in the draft TMDL released September 24, 2010. The draft backstop allocations reflect parts of New York's draft WIP which EPA judged to be most strong and effective, along with high level backstop allocations to New York's point sources. EPA established those high level backstop allocations to ensure that each basin hits the nutrient and sediment allocations in order to ensure practices are in place by 2017 to achieve 60% of the necessary nutrient and sediment reductions and by 2025 so that water quality standards can be achieved and maintained in all tidal segments of the Bay and its tributaries. The backstop allocations are discussed in further detail in Sections III and IV.

Section II: Addressing Sector Area Concerns & Opportunities for Improvement

Agriculture:[1] Serious Deficiencies in Gap-Filling Strategies

Strengths
Similar to some other states in the Chesapeake Bay watershed, EPA recognizes that New York's agricultural programs exceed federal minimum requirements in certain respects. Specifically, New York's Confined Animal Feeding Operations (CAFO) program applies to significantly more operations than the federal CAFO program (e.g., 300 vs.700 animal dairy farms). Further New York has assessed nearly 11 million dollars in penalties from its statewide CAFO compliance and enforcement program. Between New York's CAFO program and its voluntary Agricultural Environmental Management (AEM) program, New York and its federal partners are working with about 95% of all dairies in the state to reduce excess nutrient and sediment loads.

New York's Chesapeake watershed benefits greatly from the support provided by the Upper Susquehanna Coalition (USC). The USC implements county-level AEM strategies and focuses on three core areas that support critical nutrient and sediment reduction practices in New York:

[1] Focus on nitrogen because it is the most difficult allocation for NY to meet given: 1) NY cannot significantly reduce air deposition on its primarily forested landscape; and 2) local programs focus on phosphorus and sediment reduction, which provide greater benefits to local waters than nitrogen reductions.

- Sustainable agriculture that emphasizes minimizing feed imports and maximizing use of local feed (a mass balance approach);
- Stream corridor rehabilitation; and
- Wetland restoration.

In 2005, the USC conducted an extensive on the ground verification of agricultural BMPs and continues to provide information on best management practices implemented to the EPA Chesapeake Bay Program Office.

Areas for Improvement

There are several areas for improvements New York could address between now and the final Phase I WIP, given New York's proposal to achieve the greatest load reductions from the agricultural sector. In order for the Agency to remove or relax the backstop allocations, EPA expects the final Phase I WIP to include (1) detailed gap-closing strategies with timeframes to increase implementation of key nutrient reduction practices to meet targets; (2) more explanation of current actions highlighted in the WIP to provide greater assurance that the implementation levels are attainable; and (3) more explanation of how compliance with existing programs is currently evaluated and how continuing and expanding compliance activities will be used to increase compliance with required practices to reduce nutrient levels in the future.

EPA does not have reasonable assurance that New York will achieve the increases in implementation levels for specific practices that New York proposes in its WIP input deck given that the WIP document indicates that New York is relying on current technical standards for CAFOs. The WIP indicates that New York is "considering" expanding its technical standards, but this is not enough information to support the expansion of some BMPs to the levels specified on page 53 of the WIP. EPA suggests that New York might strengthen state programs or authorities to achieve these implementation rates by revising NMP regulations to include key practices identified in the WIP input deck. EPA recommends that New York consider requiring additional measures identified in EPA's *Section 502 Guidance for Federal Land Management in the Chesapeake Bay Watershed* released on May 12, 2010 as a way to achieve additional nutrient and sediment reductions from the agriculture sector.

EPA requests that New York provide information on how much and where (small vs. CAFO) dry distilled grains are used in dairy feed, and what manure storage requirements are in place for small dairies to support sustainable agricultural practices promoted by the Upper Susquehanna Coalition.

The WIP cites Cornell University research indicating that agricultural lands in the Upper Susquehanna watershed are in gross balance for phosphorus inputs and cropping systems largely due to source reduction efforts. Further, Cornell research indicates that there is a statewide negative nitrogen balance in New York and that agricultural nitrogen has decreased by 53% from 1987 to 2007. This research supports New York's conclusion that there is not excess manure in its portion of the watershed.

Although the New York portion of the Chesapeake Bay watershed as a whole may not have excess manure, in practice it is quite likely that manure, and in particular liquid manure from dairy operations, is not distributed evenly or widely. To address the resultant localized

imbalances of organic nutrients compared to agronomic needs and come closer to meeting the July 1 nutrient allocations, New York should consider including commitments to implement or evaluate specific enhanced technical requirements such as manure storage and transfer systems, enhanced phosphorus management standards to prevent phosphorus build-up in soils and manure emission controls. EPA also suggests that New York consider the potential application of alternative manure technologies that could be used to provide value added products to the industry. EPA expects any such proposals or commitments to be supported by specific delivery mechanisms (e.g., incorporation into state technical standards for CAFOs) and milestones in order to have assurance that these practices could be achieved and maintained.

While strengthening the technical standards for CAFOs can significantly increase the use of specific practices on CAFOs, EPA requests additional information for the final WIP to describe how New York will increase rates of implementation for practices that are projected to increase significantly (i.e., used on 2-10 times more acreage, or linear feet, in the next 15 years, than what is currently in place) in smaller farms where participation is voluntary. These practices, that are projected to increase through 2025 without supplemental programs to support them, include: stream access control with fencing (from 8% in 2009 to 100%), pasture management (from 18% in 2009 to 68%), grass buffers (from 3% in 2009 to 14%), conservation tillage (from 7% in 2009 to 40%), continuous no till (from 1% in 2009 to 21%), barnyard runoff control (from 22% in 2009 to 65%) and non-urban stream restoration (from 0 feet in 2009 to 338,000 feet). EPA requests than New York provide detailed information on what actions it will take to meet or exceed these implementation levels.

The level of detail EPA is looking for could include actions such as proposing a regulation requiring fencing livestock out of streams and maintaining adequate grass buffers, or changing the provisions for Enhanced Nutrient Management Plans (ENMPs) that are updated or developed in the Chesapeake watershed. These ENMPs would need to specify what "priority practices" were considered in the plan, why they were determined to be appropriate or inappropriate, and the level of implementation prescribed for these practices in the plan. Then, consistent with the AEM Tier 5 process, the levels of practices implemented would need to be verified. EPA recommends providing a timeframe for conducting an initial verification of new practices implemented to better understand the effectiveness of these practices and track them over time.

Given that enforcement is New York's only contingency plan identified in the draft WIP, EPA requests that New York provide more information on the: 1) current frequency of inspections in the Chesapeake watershed; 2) inspection results; and 3) penalties assessed/collected. For example, page 14 of the WIP indicates a "high" compliance rate, but does not indicate what requirements are being evaluated, over what period, and how the rate was calculated. EPA also expects the final WIP to provide as much information as possible on current enforcement at CAFOs, how information gaps will be closed, how many additional inspections are expected on an annual basis, and what types of follow up actions are being considered. EPA encourages New York to use its Chesapeake Bay Regulatory and Accountability Program (CBRAP) grant on staff and/or technical resources necessary to address these needs.

Last, EPA notes several other possible inconsistencies with the BMP implementation levels proposed by New York in its WIP such as that provided for mortality composting. The draft

WIP states that 50% of all dairy mortality will be composted whereas the model input deck indicates that only 2% of livestock will be composted. Another example is the input deck indicates that 80% of applicable lands already have Livestock Management Systems in place, whereas the WIP is planning to implement this practice on 60% of applicable lands by 2025. EPA will work with New York to ensure that the appropriate numbers are used in the final WIP runs.

Urban Stormwater: Serious Deficiencies in Gap-Filling Strategies

Strengths
The major strengths of New York's stormwater program discussed in the WIP include: 1) New York's 2010 MS4 permit extends coverage beyond required minimum levels to municipal boundaries; and 2) New York adopted a new conservation law this year that significantly reduces use of residential fertilizer containing phosphorus.

Areas for Improvement
New York's 2010 MS4 permit for new and redevelopment standards does not have the level of detail needed to demonstrate how it will contribute to the 15% reduction in nitrogen loads from urban lands assumed in the draft WIP. To achieve these reductions through the MS4 permit, it would need a strong, unqualified, enforceable performance standard and environmental objective such as those found in West Virginia's MS4 permit.[2] The WIP should provide New York's strategy to use residual designation authority (RDA) or other mechanisms to regulate additional discharges if the state is assuming reductions from urban lands outside MS4 jurisdictions. EPA also expects the final WIP to include details on a retrofit program that includes strong performance standards and enforceable requirements if the WIP continues to call for load reductions from existing urban lands. Finally, EPA recommends that the final WIP consider including more controls on state and county roads to reduce loads from impervious surfaces outside MS4 communities as a strategy to reduce additional loads from existing sources in the watershed through enforceable or otherwise binding, or similarly effective, means.

Wastewater: Serious Deficiencies in Gap-Filling Strategies

Strengths
EPA recognizes New York's commitment to source reduction strategies for phosphorus as illustrated by the legislation adopted in 2010 that extends current phosphorus limits to include dishwasher detergent. EPA also commends New York for its recent upgrade of the Binghamton/Johnson City plant that treats about 30% of New York's total average wastewater flow. The effluent limit for nitrogen is expected to be between 4-6 mg/l, pending the completion of a 2-year treatability study to determine its final performance-based effluent limits.

Areas for Improvement

[2] See "Controlling Runoff from New and Redevelopment, Part II.C.b.5 beginning on page 12 and ...a.ii.A.1 starting on page 14 for the specific performance standard and accompanying program information. Available at <http://www.dep.wv.gov/WWE/Programs/stormwater/MS4/permits/Documents/WV%20MS4%202009%20General%20Permit.pdf>.

According to the WIP. NY's strategy for all significant wastewater treatment plants (WWTPs), excluding Binghamton, is monitoring followed by setting "action levels" at 12 mg/L TN and 2 mg/L TP. WWTPs that exceed New York's "action levels" will be required to implement operational or process changes that will bring treatment levels at these facilities to action levels within 18 months. We suggest that New York provide a table summarizing the status of current TSS or sediment discharge levels for each of its 28 significant facilities. In addition, the table should include any existing nutrient, TSS or sediment action levels or permit limits and whether or not the facility is achieving those levels/limits. Further, EPA expects the final WIP to clarify discrepancies between the draft WIP document and the WIP input deck submitted September 1. The WIP input deck indicates that all significant plants except Binghamton will be permitted at 9.7 mg/L TN and 0.7 mg/L TP, which is considerably below the action levels described in the document.

While these facilities are also required to evaluate a wide range of structural practices that bring their treatment levels to the limit of technology, no additional treatment reductions, such as Biological Nutrient Removal (BNR), are required at any plants. To significantly strengthen the final WIP and come closer to meeting the July 1 nutrient allocations, EPA recommends that New York consider a commitment to achieve significant further nutrient removal such as BNR at all significant WWTPs, along with milestones for implementing additional nutrient reduction at a specific number of facilities. At a minimum, EPA would expect New York to require these treatment levels at facilities that represent some percentage of New York's total waste water load.

The final WIP also needs to explain how the load from non-significant WWTPs will be monitored and tracked to ensure that it does not increase beyond any aggregate wasteload allocation for these facilities.

Growth

New York's population has generally remained the same or decreased from 1985 to the present, while New York's overall number of animals have significantly decreased during this time. EPA will continue to consider providing credit to New York for these growth and landuse changes that have reduced New York's nitrogen and phosphorus loadings to the Bay. EPA recognizes New York's assumptions that population growth and animal trends may remain constant or decrease at about the same rate as they have in the past.

EPA agrees that the potential for Marcellus shale gas development is currently uncertain; however, EPA suggests that both the potential for decreased loads (due to conversion of farmland and use of state-of-the-art stormwater control practices for pad and ancillary infrastructure construction and maintenance) as well as the potential for increased loads (due to increased impervious surfaces and work force and support structure changes) could be more fully discussed in the WIP.

Even though nutrient and sediment sources as a whole in the Upper Susquehanna may be constant or decreasing, EPA expects the final Phase I WIP to describe New York's provisions for offsetting any individual new or increased discharges. EPA expects the final WIP discussion to

describe how New York would refine its offset program as necessary to be consistent with Section 10 and Appendix S of the draft TMDL. In particular, the Phase I WIP should describe the state's methodology for identifying new or increased loadings from point and nonpoint sources and ensuring they are tracked and offset, and that the offsets are enforceable, transparent, verifiable and monitored over time. EPA expects that any offsets for new or increased point source discharges would be addressed in individual discharge permits. If an offset is based on the accomplishment of nonpoint source nutrient reduction, EPA expects that New York will first establish a rigorous process to ensure that such offsets are verifiable and trackable.

Section III: Backstop Allocations

In order to meet the 2017 and 2025 nutrient and sediment target allocations to attain applicable Bay water quality standards, EPA has proposed a high level backstop allocation scenario for New York in the draft Chesapeake Bay TMDL. While EPA will consider all comments and the final Phase I WIP, unless DEC significantly improves and submits a final Phase I WIP addressing the concerns raised in this evaluation, EPA expects to finalize a high level backstop allocation scenario.

High level backstop allocations for New York sources include:

- Significant Municipal WWTPs: limit of technology (3 mg/L TN and 0.1 mg/L TP) and design flow for significant municipal plants
- Significant Industrial WWTPs: EPA calculated the percent reduction in significant municipal wastewater treatment plant loads from New York's WIP input deck to the limit of technology treatment (3 mg/l nitrogen and 0.1 mg/l phosphorus). EPA then applied these nitrogen and phosphorus reductions to the significant industrial WWTP loads included in the WIP input deck to determine an equivalent high level backstop allocation load.
- MS4s: 50% of urban MS4 lands meet aggressive performance standard through retrofits and redevelopment; 50% of unregulated urban land treated as regulated, so that 25% of currently unregulated urban land meets aggressive performance standard; residual designation of currently unregulated sources as MS4s as necessary
- Construction: Erosion and sediment control on all lands subject to Construction General Permit
- CAFO production areas: Waste management, barnyard runoff control, mortality composting. Precision feed management for all animals. Same standards are assumed to apply to AFOs not currently subject to CAFO permits EXCEPT for no feed management required on dairies; residual designation of currently unregulated AFOs to CAFOs as necessary.
- Additional reductions from agricultural nonpoint sources necessary to meet July 1 and August 13 nutrient and sediment allocations that EPA will ensure occurs through additional federal backstop actions as necessary

In addition, EPA also intends to continue the finer scale wasteload and load allocations (same level of detail as tidal states) for New York in the final TMDL as a mechanism to increase

reasonable assurance and to ensure NPDES permits will be consistent with Chesapeake Bay TMDL wasteload allocations.

Section IV: Other Federal Backstop Actions

Pursuant to the December 29, 2009 letter from Regional Administrator Shawn Garvin to the Chesapeake Bay Principals' Staff Committee, EPA may consider applying other federal backstop actions in addition to those listed in Section III to ensure that jurisdictions develop and implement sufficient WIPs and achieve nutrient and sediment load reductions as evidenced through two-year milestones.

Section V: Other Suggested Improvements/Final Comments

In its June 11, 2010 letter to the Principals Staff Committee, EPA indicated that it would include for each jurisdiction a separate Temporary Reserve for both nitrogen and phosphorus for the purposes of WIP development and incorporating contingency actions. The Temporary Reserve is based on possible changes to nitrogen and phosphorus allocations that could result from two forthcoming model refinements to Phase 5.3 of the Chesapeake Bay Program Watershed Model.

In his July 1 letter to the Principals Staff Committee communicating the major basin and jurisdiction nutrient allocations, EPA Regional Administrator Shawn Garvin announced that this reserve would be 5%. The Regional Administrator explained in that letter that the Agency expects jurisdictions to account for this 5% Temporary Reserve as an element of their contingency actions in their Phase I WIPs, in the event that the 2011 refinements to the Phase 5.3 Chesapeake Bay Watershed Model result in draft allocations lower than those provided to you on July 1, 2010. EPA expects New York to incorporate this 5% Temporary Reserve into the final Phase I WIPs. Depending on the results of the 2011 model refinements, the Temporary Reserve will be revised or removed as appropriate during the 2011 Phase II WIP development process.

EPA looks forward to discussing these issues and providing additional suggestions to New York at the upcoming one-on-one session with EPA.

Section VI: Closing

Thank you again for New York's submission of the draft WIP on September 1, 2010. We appreciate New York's interest in working with EPA to address these deficiencies in the final WIP. EPA staff is currently arranging a half-day conference call with New York to provide additional explanation of this feedback and to discuss in greater detail some ideas for strengthening New York's final Phase I WIP, due to EPA by November 29, 2010, and the Phase II WIPs that will be submitted in 2011.